Handy Band

The Handy Band

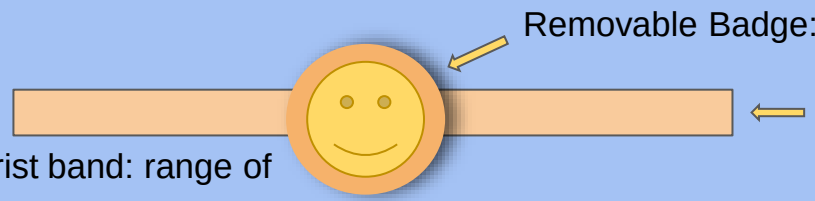
The Handy Band is a simple device. It uses some handy software to:

- help you to wash your hands with some simple steps!
- remind you to wash your hands every time you enter your house!
- help keep you safe from Coronavirus, and from catching other germs!
- Supporting software to customise settings!

It is extremely versatile and affordable, with the snazzy velcro band and its badge, it looks great round your wrist!

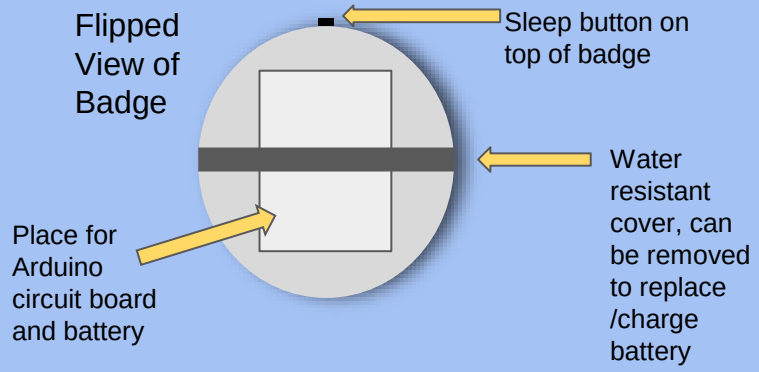
What's more you can customise it to your taste! With a range of designs you can be anyone anytime!

Badge Designs



How It Works

A Handy Band pack contains 1 Arduino, 1 Band with Badge, 4 Infrared Signal Transmitters, a set of instructions and a link to the Handy Band website.



Badges have an indent in the back where the Arduino clips in, and have a water resistant back. They can be detached from the snap band and the back removed in order to replace /charge the battery.

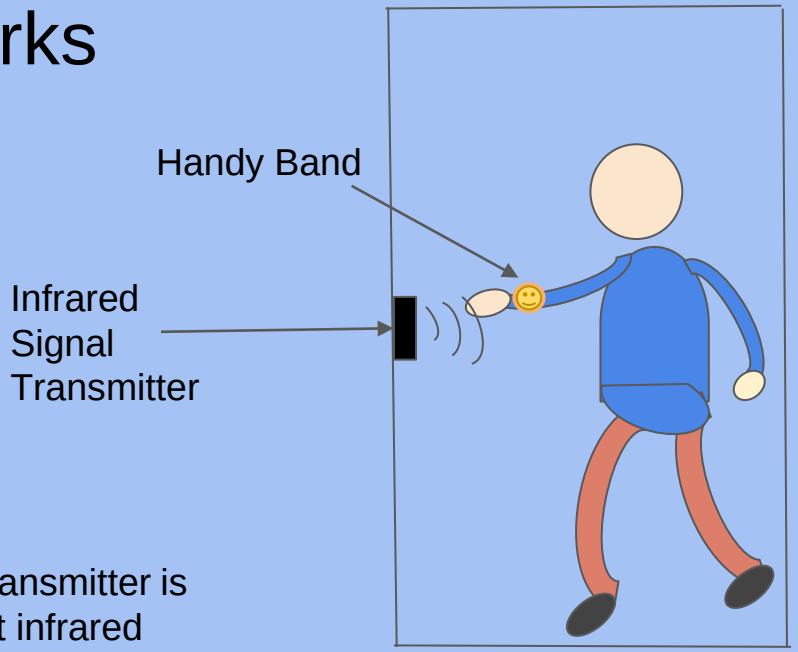
The Handy Band can be used when entering

- any washroom in your house
- your house from outside.

Attach one of the Infrared Transmitters to a door frame of your choice where it will constantly send out infrared signals (see slide 5).
When the infrared signal triggers off the Arduino, the Arduino will respond giving a list of instructions (depending on which door the transmitter is on) to encourage you to wash your hands (see slide 6)!

If the Arduino's GPS records you leaving your house and then coming back in through a front /back door fitted with the Infrared Transmitter, it is also activated and reminds you to wash your hands (see slide 6).

How It Works



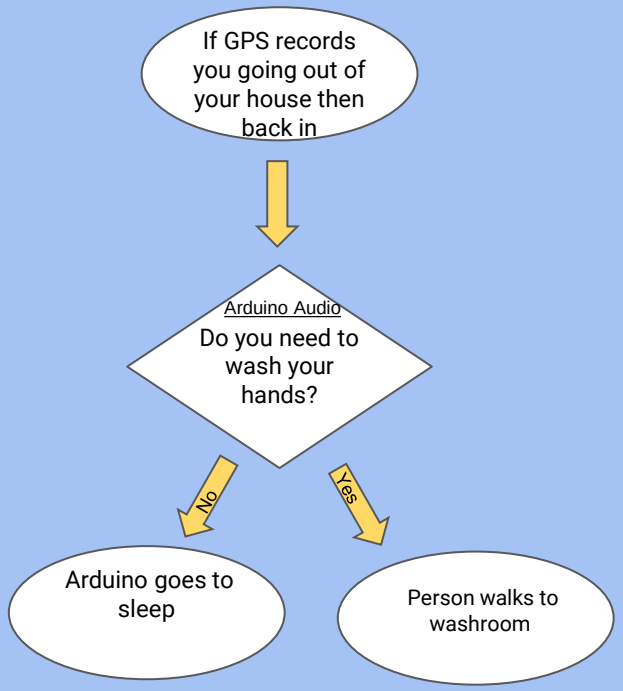
Where to place the Infrared Signal Transmitters:

- washroom door frame.
- front /back door frame.

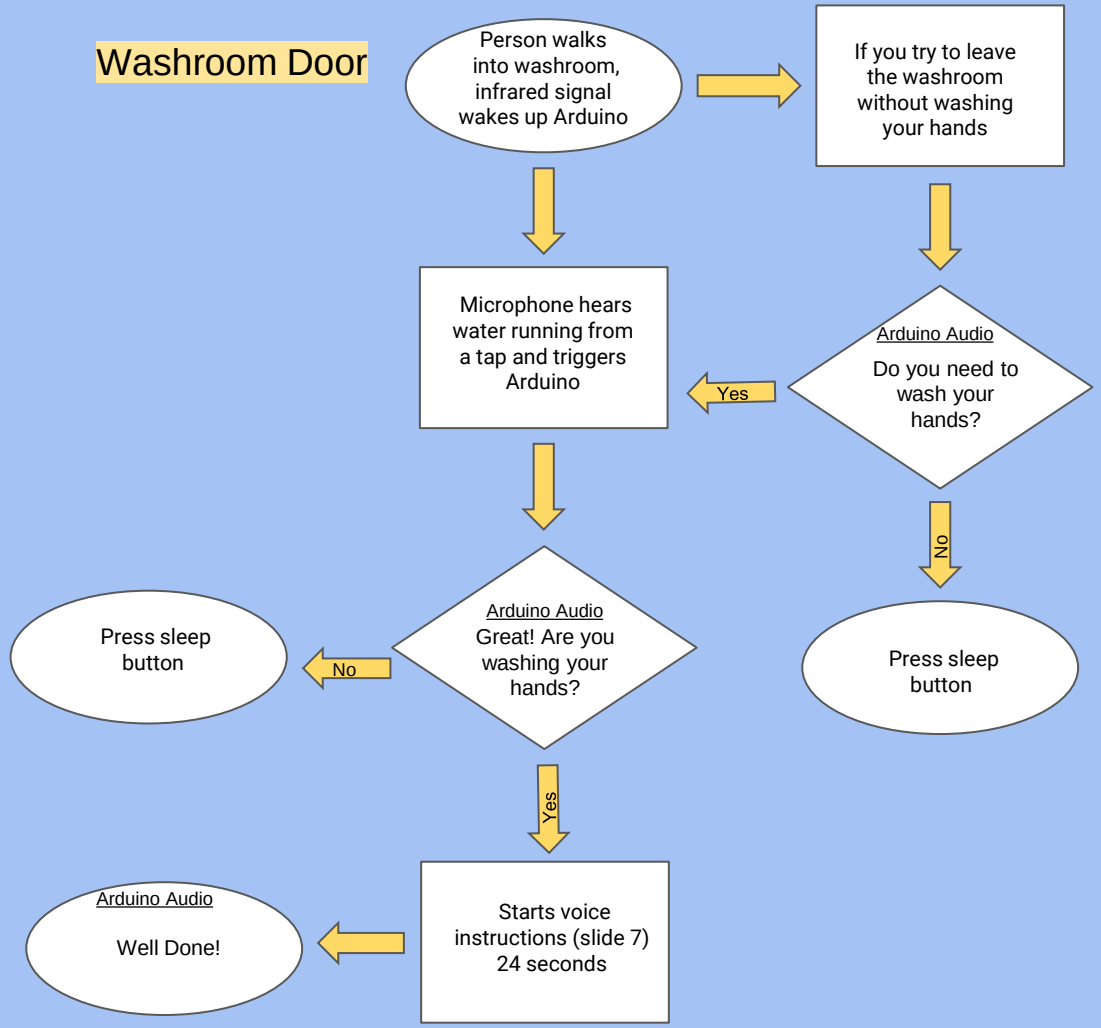
The Infrared Signal Transmitter is constantly sending out infrared signals so when someone wearing a Handy Band walks through the doorway the Arduino board receives the signal and activates a series of options (slide 6).

What It Does

Front/Back Door

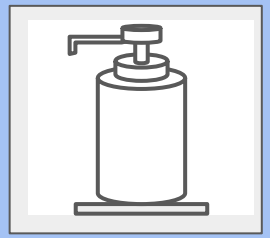


Washroom Door



Washing Steps

1

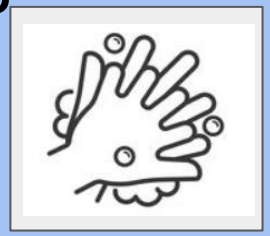


Soap, Water

2

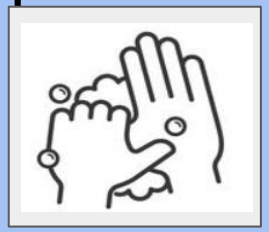
Hand Rub

3



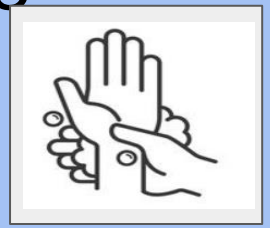
Rake

4



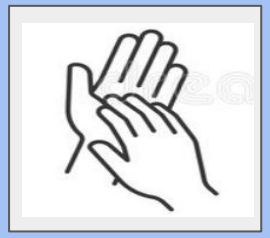
Thumb Twist

5



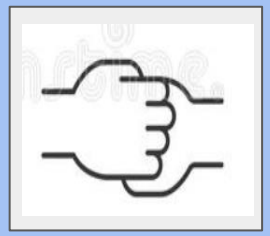
Wrist Twist

6



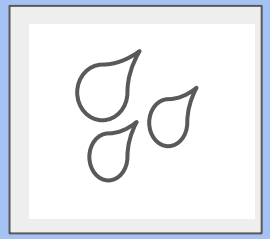
Finger Tips

7



Monkey Grip

8



Rinse

- When activated to start the hand washing steps, the Arduino will beep to signal the wearer to start.
- It then calls out a list of washing instructions, “Hand Rub” etc, leaving 3 seconds between each stage.
- Total time taken for washing equals the NHS recommended time.
- Illustrations and washing instructions come with the Handy Band pack and are on its website.

Settings

The Handy Band uses 1 Arduino Nano board.
It will require a battery to operate.

The supporting Handy Band software enables the user to customise the settings.
Including to:

- set the GPS position for their house. If wanted, it can include GPS positions for two other houses, so a grandparent's house can be included.
- alter sensitivity of the microphone
- alter the volume of the output
- there is an option to set the Arduino so that it is directly activated by a running tap, without the need for the Infrared Signal Transmitter to activate the Arduino
- extra Infrared Signal Transmitters can be ordered.

Acknowledgements

- https://www.nhsggc.org.uk/media/252632/hand-hygiene-sop-v6-january-2019-final.pdf

- https://www.arduino.cc